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Mary R. Vaden
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April 12, 1996

Mr. Geoffrey Waldau
Chairman-Maryland Local Number Portability Consortium
Public Service Commission of Maryland
6 St. Paul Centre
Baltimore, Maryland 21202-6806

Re: Maryland Local Number Portability Consortium: Updated Response to the Issues List

Dear Geoff,

Attached please find an updated response of Bell Atlantic - Maryland, Inc. ("BA-MD") to the Issues List. Also attached is a copy of the Further Reply Comments of Ameritech filed April 5, 1996 with the FCC in CC Docket No. 95-116 and a Bellcore letter from the Group President dated March 20, 1996. These documents should be added to those you already have for inclusion in the BA-MD Appendix of the Second Quarterly Report of the Maryland Local Number Portability Consortium. However, these attachments had not been numbered. Therefore, I am including these attachments again with an attachment number for ease of reference. These attachments are:

Attachment 3 March 22, 1996 letter from Nortel.
Attachment 4 February 29, 1996 letter from me with attachment.
Attachment 5 March 11, 1996 memo from Lisa Franks
Attachment 6 April 10, 1996 letter from me.
Attachment 7 March 18, 1996 letter to the vendors

Very truly yours,

Mary R Vaden

Attachments

Maryland LNP Consortium
Case 8704
Issues List for Staff's 2nd Quarterly Report
Bell Atlantic Response

1. Is the permanent LNP solution via LRN more cost beneficial than RCF?

***RESPONSE**: This is the wrong question. The correct question is, "Do the benefits of any permanent LNP solution outweigh its costs?" The Consortium does not have enough information to answer that question. While BA-MD has submitted several fact-based cost analysis documents, no entity has submitted any fact-based analysis quantifying the benefits of permanent LNP. It has become merely an assumption on the part of the CLECs that permanent LNP results in societal benefits that outweigh the costs of implementation.*

The MCImetro cost comparison of implementing number portability using RCF versus LRN (Appendix X) is flawed in two major respects. First, it incorrectly assumes that OSS costs are common. It is clear the OSS impacts associated with permanent LNP are much more pervasive, complex, and costly than those associated with RCF. Second, other significant costs of permanent LNP are not considered, e.g., the impacts on traffic sensitive network components, the costs of the local SMS to work with the regional SMS and software (SCP) costs.

It appears that the exercise of attempting to compare the cost of RCF to permanent LNP started as a result of Nortel's support of industry efforts to consider the relative cost of various number portability alternatives. The attached letter from Nortel clarifies that their comparisons were not intended to depict the total cost of providing permanent LNP, but rather to explore patterns and relationships to reach qualitative conclusions about various triggering algorithms. As is the case with the MCImetro analysis, the Nortel analysis excluded permanent LNP costs for OSS and others. (See letter from Nortel dated March 22, 1996, Attachment 3)

A. Are there material facts in dispute concerning the costs of permanent LNP in Staff's 2nd Quarterly report?

***RESPONSE**: Yes. Further, as a matter of procedure the specific details forming the basis of this issue (1A) were provided to Staff under proprietary agreement. Therefore, it is inappropriate for any Consortium members other than Staff to comment on this issue (1A).*

1. For the cost analysis, should Bell Atlantic's (BA's) costs be spread to all BA states?

***RESPONSE**: No. The Consortium is focusing on developing and implementing a Maryland solution, not a national solution, and*

it would therefore be inappropriate to spread any costs to other jurisdictions.

2. Should incremental churn costs (customer service costs to process orders) be included?

RESPONSE: *Yes. Although additional provisioning costs associated with the steps needed to transition a subscriber from BA-MD to a CLEC network in a permanent LNP environment cannot yet be quantified, BA-MD utilized existing disconnect costs to estimate the impact of outward churn resulting from permanent LNP. In fact, the approach used was extremely conservative in that BA-MD included only those costs associated with the 10% differential in the assumed penetration rates of permanent LRN (30%) vs. RCF (20%).*

B. Are the material facts in dispute concerning the benefits of permanent LNP (or deficiencies of RCF) in the Staff's 2nd quarterly report (Appendix)?

RESPONSE: *Yes. While the benefits have been qualified they have not been quantified. As stated above, BA-MD has submitted several fact-based cost analysis documents. No party has submitted any fact-based analysis quantifying the benefits of permanent LNP. Yet, despite the absence of such quantitative evidence, there appears to be a general consensus among the CLECs that permanent LNP results in societal benefits that outweigh the costs of implementation.*

Additional comments regarding the deficiencies of RCF are pending based on review of the completed, final 2nd Quarterly Report.

1. Should "avoided RCF costs" include CLEC and BA-MD's RCF costs plus tariffed rates paid by CLECs to BA-MD?

RESPONSE: *No, this would be double counting.*

C. Is a hearing necessary for the Commission to make a decision on the cost-benefits of permanent LNP?

RESPONSE: *Under the Telecommunications Act of 1996, there is no basis for the Maryland PSC "to make a decision on the cost-benefits of permanent LNP," with or without a hearing.*

1. D. Should the Maryland Commission require that all carriers operating in Maryland (local and interexchange) provide (or procure) permanent local number portability capability and offer this to their customers?

RESPONSE: *Under the Telecommunications Act of 1996, this is properly the decision for the FCC, not the Maryland PSC.*

2. Is there a sound public policy reason for quick implementation of permanent database LNP?

RESPONSE: *No, there is no sound public policy reason for the implementation of any permanent database LNP chosen by the Maryland Consortium or the Maryland Commission . The Telecommunications Act of 1996 requires the FCC to prescribe the requirements for LNP.*

Even Ameritech, where the Illinois Consortium has been working extremely hard to implement LNP, has filed Further Reply Comments in CC Docket No. 95-116 which raises significant issues with the implementation of LRN. They go on record that the "...proposed deployment schedules are reckless and exceed the resources and capabilities of the industry" Attachment 1 is a copy of the Ameritech comments.

A. Should the Commission require implementation of LRN by 3Q97?

RESPONSE: *No. See above response to Issue 2.*

B. Should the Commission require all local exchange and interexchange carriers to implement the technical strategy developed by the Illinois Workshop by 3Q97 or wait for an alternative technical strategy from Bellcore (e.g., with look ahead capability, single standard platform and trigger) which may take longer and may cost less? See BA-MD's letter explaining why it can not support the Illinois existing requirements.

RESPONSE: *There is no basis for Maryland to implement the strategy developed by the Illinois workshop at any time. Furthermore, the Bellcore development effort is not an "alternative technical strategy" but is one which will address the documented concerns associated with the Illinois strategy. See BA letters (Vaden letter to Waldau dated February 29,1996, Attachment 4, Franks letter to Miko dated March 11, 1996, Attachment 5 and Vaden letter to Waldau dated April 10, 1996, Attachment 6). See also attached letter from the Group President at Bellcore to Waldau of the Commission Staff dated March 20, 1996 (Attachment 2). See also the response to Issue 2 above.*

2. C. What is the range of the likely or forecasted costs-benefits and timing of the Bellcore alternative technical strategy? (See letter from Mary Vaden, BA-MD to Geoffrey Waldau, MDPSC dated Feb 29, 1996.)

RESPONSE: *The answer to this question is unknown at this time.*

D. Should an alternative technical strategy proposed by Bellcore be considered and approved by the majority of carriers in the Maryland Consortium or be implemented and timed solely at the option of BA?

RESPONSE: *Under the Telecommunications Act of 1996, there is no basis for the Consortium to decide that BA-MD should implement any strategy.*

It is important to note, however, that BA-MD has worked cooperatively with the MD-Consortium since its conception in July 1995 and has thoroughly analyzed the current ICC Workshop Phase 1 requirements. It is clear that the Illinois specifications fall short of fully defining the technical requirements of permanent LNP for acceptable deployment in the BA-MD network. For these reasons, BA-MD cannot support a "phased" requirements/development process given the potential cost penalties.

In fact, BA along with eight other major telecommunication service providers have recently asked the switch manufacturers to address several major issues not addressed as part of the ICC Workshop process, e.g., the need for a look ahead query reduction mechanism and a quantification of the impacts of permanent number portability on switch processing capacity. See letter dated March 18, 1996, addressed to Ericsson, Nortel, Lucent Technologies, and Siemens Stromberg-Carlson, Attachment 7.

3. What is the best public policy concerning permanent LNP cost recovery (e.g., competitive neutrality)?

RESPONSE: *The public policy is set forth in the Telecommunications Act of 1996. It requires a competitively neutral basis as determined by the FCC.*

BA-MD believes that it makes no sense for the Commission to adopt any framework that recovers the costs of portability from the very customers who do not use it and derive no benefit from it, and there is nothing to require such a radical departure from traditional cost recovery mechanisms.

Furthermore, raising the rates of the remaining customers of the incumbent local exchange carrier to pay for services provided to those customers who have switched to another provider can hardly be characterized as "competitively neutral." Rather, it would give these customers added incentive to switch to another provider.

A. Should CLECs pay for BA-MD's permanent LNP costs via a per line per month charge or some other charge?

RESPONSE: *Under the Telecommunications Act of 1996, the FCC will decide this issue. Also, see comments under the response to issue 3 above.*

3. B. Should the Commission require broad-based cost recovery (i.e., all carriers to pay for their own permanent LNP network, operating costs and a portion of the shared number porting administration center [NPAC] costs and recover these from their own customers if they choose)?

RESPONSE: *Under the Telecommunications Act of 1996, the FCC will decide this issue. The solution proposed in the question, however, is not competitively neutral as required by the Act. Also, see comments under the response to issue 3 above.*

1. Should NPAC costs be allocated to carriers based on local market share, the number of transactions with the NPAC, or some other measure?

RESPONSE: *Under the Telecommunications Act of 1996, the FCC will decide this issue.*

C. When should the Maryland Commission rule on the method and amounts for any BA-MD permanent LNP cost recovery (e.g., now, after May FCC ruling assuming it is substantive, in conjunction with Case 8715)?

RESPONSE: *Under the Telecommunications Act of 1996, the FCC will decide this issue. Also, see comments under the response to issue 3 above.*

D. Should the Commission establish a surcharge mechanism to recover all carriers' costs from the entire customer base in Maryland?

RESPONSE: *Under the Telecommunications Act of 1996, the FCC will decide this issue. Also, see comments under the response to issue 3 above.*

4. What are the benefits, if any, of having a limited liability company (LLC) issue the RFP, and contract with and supervise the database administrator or NPAC?

A. Can and should the Commission require BA-MD, or any carrier to be a member of an LLC?

B. If an LLC is formed, should the Commission be the final level for breaking deadlocks (if Staff is already involved in resolving deadlocks at a lower level within the LLC)?

RESPONSE to 4, 4A, & 4B: *It is premature to establish a limited liability company or other entity at this time. First, the Maryland Commission should take no action until the FCC acts. Second, it is essential that additional details regarding the costs and financing of the entire MD LNP project be resolved before a proper determination can be made as to the appropriate organizational structure. The Commission has previously recognized that commitments should not be made regarding suppliers, products and functions until key cost-related issues are resolved.*

It is clear that much additional work and clarification will be required before the appropriate organizational structure for the number portability project can be determined.

5. What is the best next course of action for the near term?

A. Should the Maryland Commission issue a ruling before the FCC ruling due in May 1996?

RESPONSE: ***No. The Telecommunications Act of 1996 places the primary responsibility for designing "final" number portability with the FCC because of the need for a uniform, nationwide plan for number portability to avoid inconsistent state-by-state portability plans.***

5. B. (a.) Should the Consortium continue developing and implementing permanent database LNP or wait for the Maryland Commission to rule?

RESPONSE: ***The Consortium and the Maryland Commission should wait for the FCC to act before doing anything further.***

B. (b.) Which activities should continue and which, if any, should wait?

RESPONSE: ***No activities should continue***

C. Should technical personnel continue working within the Maryland Consortium technical committees to implement LRN by 3Q97 until the Maryland Commission issues an Order?

RESPONSE: ***No.***

D. Should the Commission rule on the cost recovery issue and identify specific recovery mechanisms prior to rendering a decision to proceed with implementation?

RESPONSE: ***The Maryland Commission should do neither.***

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Telephone Number Portability	)	CC Docket No. 95-116
	)	DA 96-358

FURTHER REPLY COMMENTS OF AMERITECH

1. Introduction.

Ameritech[1] files its Further Reply Comments in this matter. The Further Comments filed herein demonstrate that there is general agreement that, except for cost recovery, the Commission can establish its number portability requirements implementing Section 251(b)(2) of the Act[2] based upon the record in this proceeding. Further, the parties agree, or at least do not dispute, that the Act mandates:

1. All local exchange carriers ("LECs"), both incumbent and new, will have a duty to provide long term number portability under Section 251(b)(2) of the Act;

2. Bell Operating Companies ("BOCs") may use remote call forwarding, direct inward dialing trunks or other comparable arrangements to provide interim number portability under Section 271(c)(2)(B)(xi) of the Act;

3. Interim number portability required by Section 271(c)(2)(B)(xi) and number portability (long term) required by Section 251(b)(2) of the Act are two different arrangements; and

4. The costs of establishing long term number portability under Section 251(b)(2) of the Act must be recovered on a competitively neutral basis from all telecommunications carriers under Section 251(e)(2) of the Act.

The parties also generally agree that Location Routing Numbering ("LRN") is the emerging national standard for long term number portability, and several commentors

[1] Ameritech means: Illinois Bell Telephone Company, Indiana Bell Telephone, Incorporated, Michigan Bell Telephone Company, The Ohio Bell Telephone Company, and Wisconsin Bell, Incorporated.

[2] Pub. L. No. 104-104, 110 Stat. 56 (1996)(to be

join Ameritech in recommending that LRN be the national standard for long term number portability.

However, controversy exists on four issues. First, should the Commission establish a national implementation schedule for LRN, and if so, what schedule should be prescribed? Second, should long term number portability be a condition of BOC provision of in-region interLATA service? Third, what mechanism should be used to recover the costs of establishing long term number portability? Fourth, are BOCs required to provide interim number portability at economic rates?

Ameritech will address these issues in detail in these Further Reply Comments. It will demonstrate that LRN is under development and that Chicago will be the "test bed" for the architecture. As such, it is still premature to establish a schedule for LRN deployment. Ameritech will also show that the deployment of LRN should be staggered and that the schedules proposed by the parties are reckless and unrealistic. Ameritech will next establish that under the Act long term number portability is not a condition of BOC entry into the in-region interLATA business. It will then show that cost recovery mechanisms for long term number portability should be developed in a Joint Board. Ameritech will finally prove the BOCs can provide interim number portability at economic rates established in the states.

2. LRN should be the national standard.

Many parties agree that the Commission can facilitate the expeditious and efficient implementation of long term number portability on a national basis if it builds upon what has already been adopted by the industry.[3] In this regard, LRN is undoubtedly the emerging national architecture for long term number portability.[4] In fact, a number of

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[3] See, e.g.: NARUC at 1-2.

[4] ALTS at 4, AT&T at 2-3, California Cable Television Association ("CCTA") at 3-6, MCI at 3-4, MFS at 3, New York Department of Public Service at 1, Sprint at 4, Telecommunications Resellers Association ("TRS") at 4, Teleport at 7, Time Warner at 7.

commentors[5] join Ameritech in recommending that LRN be the national standard for long term number portability.[6]

3. LRN installation should be staggered beginning with its successful initial deployment. The proposed schedules are premature and unrealistic.

Some parties[7] mistakenly claim that LRN is now technically feasible and rashly propose that the Commission immediately mandate its hasty national implementation. Ameritech shares the desire to expeditiously establish long term number portability, and has been a leader of the industry effort to develop LRN. However, any effort at this point to establish a mandatory LRN deployment schedule would be a mistake. As an initial matter, LRN is not a unilateral BOC undertaking. LRN requires the development of software by all switch manufacturers. It also requires participation, resources and commitment from the entire industry, including other LECs, switch vendors and others.

Equally as important, it is premature to establish specific deadlines for LRN at this time, since LRN is not yet operational and its planned deployment in Chicago is the national "test bed" for the architecture. There simply is not sufficient information to even venture an educated guess on how quickly LRN can be generally deployed or how long each installation will take. The software for LRN is just now beginning to be developed by the switch manufacturers, and is not scheduled for release until the second quarter of 1997.[8] Based upon past experience, the first release of the LRN software will need to be tested by the manufacturers, in the laboratory and in test installations in the networks of the participating carriers. The installation of LRN in Chicago can begin only when these

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[5] ALTS at 6 ("minimum benchmark"), AT&T at 2, CCTA at 7, MCI at 4, Sprint 3-4, Teleport at 8 ("preferred approach"), TRA at 4.

[6] Ameritech disagrees with MCI's assertion [Attachment to Further Comments] that query on release (QOR) should not be considered as an enhancement to the LRN architecture. Ameritech in its Attachment to these Further Comments shows that the arguments offered by MCI against (QOR) are groundless, and QOR is a viable enhancement to LRN.

[7] For example, AT&T at 5-7, Cox at 8-9, MCI at 6, Sprint at 5, Time Warner at 10.

[8] See, AT&T at 6.

extensive tests are successfully completed and the industry is convinced that LRN will function properly with all types of calls, is transparent to users, and does not cause post-dialing delay or other service or network problems.

Several parties point out that there are still unresolved operational issues surrounding LRN that must be resolved before the architectures generally installed.[9] Within the Illinois Industry Workshop established to develop number portability, Ameritech has assumed a leadership role on subcommittees actively resolving these issues.[10] In Illinois, some compromises were made by the industry to the initial technical requirements for LRN to permit its accelerated deployment. Acknowledging the limitations of initial releases of software, several highly desirable enhancements to basic LRN were deferred until later software releases. In addition, it is still unknown whether the switch manufacturers can fully comply with all the initial LRN software requirements in the timeframe requested. As such, the initial deployment of LRN in Chicago is a developmental project, and Ameritech expects that LRN will be refined and enhanced based upon experience.

Second, these proposed deployment schedules are reckless and exceed the resources and capabilities of the industry.[11] In concept, Ameritech agrees with AT&T that national deployment of LRN by the industry should be staggered, both nationally and

[9] For example, GTE at 5.

[10] Ameritech has chaired the Switch Requirements, SCP Requirements, SMS and Operations subcommittees.

[11] For example, Cox (at 9) proposes that LECs be required to implement number portability "within 24 months of Commission rules in the top 100 MSAs." Sprint (at 5) believes that "a fourth quarter 1997 target date for the top 100 MSAs" reflects a balance.

within each region.[12] Ameritech also agrees with AT&T that a reasonable time must be allowed for "acquisition of valuable testing, troubleshooting and deployment information" gained from the Chicago and Atlanta deployments.[13] However, AT&T and these other parties fail to heed this advice, and propose schedules that do not allow a reasonable opportunity to analyze the Chicago and Atlanta installations and to incorporate the lessons learned into LRN before general deployment begins.

Further, these proposed schedules ignore the magnitude of the task required to successfully install an LRN system immediately requiring many simultaneous deployments. The deployment of LRN is an immensely complex task requiring hundreds of steps by the multiple vendors, carriers and the third party administrator. Some of these steps are:

1. Testing of the software of each manufacturer.
2. Selection of a Number Portability Administration Center ("NPCA") vendor and administrator.
3. Installation and testing of the NPAC and its interfaces with each participating network.
4. Testing E911 across the NPAC and each participating network.
5. Development and testing of rating and billing for each participating network.
6. Modification of each carrier's installation, operating, and repair systems and databases.
7. Determining and deploying required additional trunking.
8. Determining and deploying required additional SS7 links and SCPs.
9. Developing and testing network triggers.
10. Developing NPAC and carrier operational methods and procedures.
11. Developing disaster recovery plans.
12. Testing all call types and functions across the NPAC and all networks.

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[12] AT&T at 3-8. AT&T proposes that the Chicago and Atlanta deployments should continue to be scheduled for the third quarter of 1997. Thereafter, "at least 1 MSA in each of the remaining 5 RBOC service regions, and at least 3 additional MSA in Bell South and Ameritech service region, in the fourth quarter of 1997. Deployment could follow in at least 3 more MSAs in each of these RBOC service regions in first quarter 1998" (at 8).

[13] *Id.* at 8.

These steps will require considerable time and resources. Ameritech believes that it is premature to speculate on the precise time frame reasonably necessary for the industry to complete a deployment of LRN, or how many simultaneous LRN deployments can be reasonably accommodated by the industry. Rather, Ameritech proposes that these target schedules and timeframes should be established based only after some experience is gained in the successful initial installations of LRN. In the meantime, the industry and the states can determine the geographic area of possible next deployments of LRN, develop implementation plans, and ascertain participating carriers.

4. Long term number portability is not required for in-region interLATA relief for BOCs.

A few parties[14] urge that the Commission to re-write the Act by adding the requirement that BOCs deploy long term number portability before they may offer in-region interLATA service. These proposals directly conflict with the clear language of the Act and should be rejected. Section 271(c)(2)(B)(vi) of the Act provides that interim number portability through "remote call forwarding, direct inward dialing trunks or comparable arrangements" satisfies this checklist requirement. The Section also provides that once the Commission issues its regulations concerning number portability "full compliance with such regulations" is all that is required. The Section does not envision a delay of the BOCs' provision of in-region interLATA service based upon long term number portability. Congress' intent in this regard is clearly set forth in Section 271(d)(4) of the Act, where the Commission is directed to "not, by rule or otherwise, limit or extend the terms used in the checklist . . . ."

5. A cost recovery mechanism should be developed in a Joint Board.

In its Further Comments, Ameritech explains why a cost recovery mechanism should be referred to a Joint Board. Ameritech continues to adhere to this view. However, if the Commission does prescribe a cost recovery mechanism, it should do so

[14] Cox at 6. *See also*, CCTA at 8-9, Time Warner at note 20.

in a manner that is consistent with the Act. The Act provides: "[t]he costs of establishing . . . number portability shall be borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission."[15]

A number of commentors ask the Commission to ignore this plain language of the Act. For example, two new LECs claim that competitively neutral recovery requires allocation of costs based upon lines,[16] while another, MFS, properly recognizes that an allocation mechanism based upon lines is not competitively neutral "since apportionment based upon line counts fall disproportionately on local telephone carriers and not on all telecommunications carriers . . . ."[17]

Several parties also advocate creative interpretations of the competitively neutral cost recovery standard that urge that the Commission ignore certain costs or exclude certain carriers from the competitively neutral recovery mechanism.[18] However, there is no showing that these costs are not real costs of establishing number portability, or that the carriers involved are not telecommunications carriers. As such, these proposals are inconsistent with the Act and are nothing more than self-serving attempts to foist the bulk of the costs of number portability on incumbent LECs and their users. These parties interpret "competitively neutrality" to mean a competitive advantage for themselves.

Ameritech believes that Section 251(e)(2) of the Act means exactly what it says -- the costs of establishing number portability must be recovered on a competitively neutral basis from all telecommunications carriers. Ameritech submits that in order to meet the competitively neutral standard, any recovery mechanism must at a minimum allocate all

[15] Section 251(e)(2) of the Act (emphasis added).

[16] Teleport at 6, Time Warner at 9

[17] MFS at 7.

[18] An example is ALTS at 7, Teleport at 5, MFS at 7-8 which seek to exclude any costs incurred by incumbent LEC in establishing number portability. Another example is MFS at 7 which advocates that BOCs recover their number portability costs in charges to other carriers. A third example is TRA at 5 and ALTS at 7 seeks to would limit recover of these costs to end users of local exchange service.

costs of establishing number portability to all telecommunications carriers on a basis that is independent of who incurred the cost, or who uses number portability. Moreover, any formula must place no competitor at an advantage or disadvantage.

6. The Commission should not order BOCs to provide interim number portability at uneconomic rates.

A few parties urge the Commission to order the BOCs to provide them interim number portability for free or at discounted rates.[19] Otherwise, they allege, there will be no competitive neutrality. The Commission should reject this argument. Rates for remote call forwarding and direct inward dialing trunks are already being determined by the state commissions at levels they find reasonable, and there is nothing in the Act that even suggests the Commission must preempt those determinations. In fact, the "competitively neutral basis" language cited by these parties as support for their position is contained in Section 251(e)(2) of the Act which has nothing to do with interim portability, which is addressed in Section 271(c)(2)(B)(xi) of the Act. Those two sections contain completely different number portability requirements, as even a proponent of free or discounted rates has acknowledged.[20] Therefore, an order by this Commission to eliminate or further discount interim number portability rates which state commissions already have found to be reasonable is not authorized by the Section 271(c)(2)(B)(xi) checklist.

MCI also complains that the BOCs recover access charges for services they provide in porting access traffic via interim number portability arrangements.[21] However, there is no dispute that the BOCs provide switching and transport services and incur costs in porting access traffic. In Illinois, Ameritech is proposing a meet point billing type arrangement where the two LECs involved in terminating ported access traffic

[19] For example, MCI at 8, MFS at 8.

[20] See, MCI at note 7.

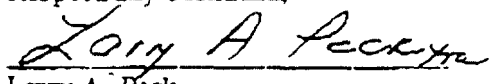
[21] MCI at 7-8.

share the access revenue under meet point billing arrangements. Again, the Commission should reject this proposal that BOCs not be able to recover lawful access tariff rates and permit the issue to be properly addressed at the state level.

7. Conclusion

The Commission should issue its requirements for number portability based upon the record in this proceeding and prescribe LRN as the national standard for long term number portability. The Commission should reject arguments that long term number portability is required before BOCs can provide in-region interLATA service. It should also address competitively neutral cost recovery of long term service provider number portability costs in a Joint Board and determine that interim number portability should be provided by BOCs at economic rates established by state commissions.

Respectfully submitted,



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April 5, 1996

ATTACHMENT

Carriers must have the flexibility to deploy long term number portability in a manner which efficiently utilizes network resources. The Commission has historically left detailed implementation decisions in the hands of individual carriers, and has limited their directives in technical matters to issues concerning interconnection and performance requirements (example: The FCC mandated overall call setup delay requirements for 800 service without dictating how such networks were to be deployed). Ameritech takes issue with several of this arguments made in the Attachment B to MCI's Further Comments.

"The call setup to the ported numbers will encounter additional delay since these calls will first be routed to the incumbent LEC . . ."

Additional delay associated with releasing a call back to the originating switch has yet to be identified or measured, and there are ways of minimizing it[1] if it is subsequently deemed unacceptable. Mr. Pathak himself admits that "The additional delay may not be perceptible to the calling user".

"Another undesirable consequence of QOR is the continued reliance of other networks on the incumbent LEC regardless of the number of times a customer has ported his number."

Even the proposed long-term solutions for number portability anticipate, and provide for, routing of ported number calls through the incumbent LEC. This is necessary due to the fact that not all carriers will be capable of supporting LNP queries within their respective networks, especially in the initial years of LNP deployment. Indeed, in many situations, there may be no incentive for smaller IXCs to provision their switches with this capability. Since the efficiencies of QOR are best realized within this same time period (i.e., during the initial years when ported number volumes are low), its consideration is entirely appropriate.

Furthermore, regardless how often a particular number has been ported (and unlike RTP), QOR will result in only one database query and (subsequent) direct routing to the actual serving switch.

"This (QOR) will force new LECs to either implement QOR with the incumbent LEC or perform an LNP query even after the number has been ported to CLEC2."

QOR, as proposed, can be provisioned on an individual basis. This permits the originating carrier to utilize QOR for routes (dialed NXXs) that terminate to a switch that is known to have the capability, and to use the originating-trigger query method in cases where the terminating capabilities are unknown.

"The QOR implementation does not exist in the networks today, and will require extra development over and above what is required by the LRN solution."

[1] The continuity test (COT) can be canceled on an individual route (trunk group) basis.

Annex C to the Call Completion to a Portable Number (CCPN) signaling enhancement has already been introduced within the T1S1 standards subcommittee (T1S1.3 LNP Subgroup), and is expected to go to ballot in June. While some additional software development will be required, this capability employs the use of existing fields within (SS7) signaling messages. At least one major switch vendor has already committed to having this capability available with its initial software release for LRN.

"The QOR capability will also increase cost by requiring extra trunking between the incumbent LEC and other networks which otherwise wouldn't have been needed."

Since the trunk to the incumbent LEC's switch is immediately dropped upon the return of a Release Message (probably less than half a second), little or no additional trunking is required. In contrast, LRN without QOR will force carriers to purchase additional pairs of costly SCPs, even if the volume of ported numbers is insignificant. This is due to the fact that most SCPs are transaction-limited. Without some method of limiting LRN queries, additional SCP hardware will be required simply to handle the query volumes.

"It should also be noted that the SS7 connectivity is required between the networks for the QOR capability to function."

Within the industry, it is universally acknowledged that there will be a loss of efficiency and feature functionality with all long term number portability architectures if end-to-end SS7 connectivity is not available. Furthermore, as stated previously, QOR can be provisioned on a case-by-case basis where SS7 is unavailable. QOR need not be employed.

CERTIFICATE OF SERVICE

I, Todd H. Bond, do hereby certify that a copy of the foregoing Further Reply Comments of Ameritech has been served on the parties listed on the attached service list, via first class mail, postage prepaid, on this 5th day of April 1996.

By: Todd Bond
Todd H. Bond

Bellcore

Gary J. Handler
Group President
Technology Resources

NVC 2Z356A
331 Newman Springs Road
Red Bank, New Jersey 07701-5699
908-758-2300

March 20, 1996

Mr. Geoffrey Waldau
Chairman,
Maryland Local Number Portability Consortium
Public Service Commission of Maryland
6 St. Paul Centre
Baltimore, Maryland 21202

Mr. Waldau,

Thank you for your letter of March 8 to Dr. Heilmeier in which you invited Bellcore to participate in the development of permanent Local Number Portability solutions for Maryland.

Bellcore's clients are interested in modifications to existing Bellcore Generic Requirements documentation (see attachment) to reflect the introduction of Local Number Portability in a nationally consistent manner. To that end, Bellcore has been working to identify issues associated with the various alternatives that are under consideration. Bellcore invites the industry to provide input and work with us to identify solutions to these issues and document these solutions in the form of Bellcore Generic Requirements for the various network components impacted by Local Number Portability. Bellcore acknowledges the work of industry forums and several state-based workshops on Local Number Portability and our process will build on these activities as well as inputs from other interested parties. We expect that modifications to existing requirements documentation and, in some cases, new requirements documentation will be necessary to address the impacts of Local Number Portability on such areas as Advanced Intelligent Network (AIN), Common Channel Signaling (CCS), Billing/Automatic Message Accounting (AMA), Operator Services, CLASS^{SM}, and basic switching.

In the interest of ensuring that Bellcore has the most current Maryland LNP Workshop Requirements documentation, please feel free to forward any relevant documentation to:

Ann Merrell
Bellcore
331 Newman Springs Road, NVC 2X249
Red Bank, New Jersey 07701-5699

Anyone interested in providing nonproprietary input or participating in Bellcore-sponsored meetings should also contact Ann Merrell at the above address or by phone (908-758-5243), fax (908-758-4343) or email (amerrill@notese.cc.bellcore.com).

Sincerely,

Gary Handler

Attachment
(January LNP Digest Article)

Copy (w/att.) to
G. H. Heilmeier
A. Merrill

January 1996

REQUEST FOR EARLY INDUSTRY INTERACTION

GENERIC REQUIREMENTS TO SUPPORT LOCAL NUMBER PORTABILITY

Local number portability has been identified as a key factor in local competition. Several states are actively proceeding with local number portability to allow alternative local exchange carriers to provide services to local subscribers. Additionally, the FCC adopted a Notice of Proposed Rulemaking (NPRM), CC Docket 95-116, tentatively concluding that the portability of geographic numbers benefits consumers and contributes to the development of local competition. The NPRM addresses Local Service Provider Portability (LSPP), Location Portability, and Service Portability.

Additionally, the Industry Carriers Compatibility Forum (ICCF) has a standing committee, the Industry Numbering Committee (INC), which is supporting a Number Portability Workshop. This Workshop views a database architecture as the most representative of long-term approaches to LNP, and developed documentation on how various technical approaches to LNP using database architectures may work.

Several different types of LNP are being discussed within the industry, and alternative approaches have been proposed. Bellcore has been working to identify the issues and problems associated with the various alternatives that are under consideration. Bellcore is beginning a program to update its generic requirements to support number portability. Bellcore invites the industry to provide input and work with Bellcore to identify solutions to these problems and document these solutions in the form of Generic Requirements for the various network components impacted by LNP. Bellcore's work will reflect the progress of LNP in the industry. It is expected that modifications to existing requirements documentation and, in some cases, new requirements documentation will be necessary to address the impacts of LNP on such areas as Advanced Intelligent Network, Common Channel Signaling, Billing/Automatic Message Accounting, Operator Services, CLASS^{SM}, and basic switching.

Bellcore anticipates that new Generic Requirements will be needed in the areas of non-SSP switching functionality, service management, and billing/AMA. Bellcore is also considering making modifications to the following generic requirements documents:

AIN

- GR-1298-CORE, *Advanced Intelligent Network (AIN) Switching Generic Requirements*, Issue 2, December 1994, plus Revisions
- GR-1299-CORE, *Advanced Intelligent Network (AIN) Switch-Service Control Point (SCP)/ Adjunct Interface Generic Requirements*, Issue 2, December 1994, plus Revisions

CCS

- GR-82-CORE, *Signaling Transfer Point (STP) Generic Requirements*, Issue 1, June 1994, plus Revisions
- GR-317-CORE, *Switching System Requirements for Call Control Using the Integrated Services Digital Network User Part (ISDNUP)*, Issue 1, February 1994, plus Revisions
- GR-394-CORE, *Switching System Generic Requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP)*, Issue 1, February 1994, plus Revisions
- TR-NWT-000444, *Switching System Generic Requirements Supporting ISDN Access Using the ISDN User Part*, Issue 3, May 1993
- GR-606-CORE, *LSSGR: Common Channel Signaling, Section 6.5 (a module of LSSGR, FR-64)*, Issue 1, June 1994, Revision 1, December 1994
- GR-905-CORE, *Common Channel Signaling (CCS) Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP)*, Issue 1, March 1995

Billing/AMA

- GR-1083-CORE, *Generic Requirements for Exchange Access Automatic Message Accounting (AMA)*, Issue 2, October 1995
- TR-NWT-001087, *Generic Requirements for Common Channel Signaling Network Usage Measurement Functionality*, Issue 2, November 1993
- GR-1100-CORE, *Bellcore Automatic Message Accounting Format (BAF) Requirements*, Issue 1, January 1995, Revision 1, June 1995

Operator Services

- TR-NWT-001144, *OSSGR Section 6: Signaling (a module of OSSGR, FR-271)*, Issue 1, January 1993, Revision 1, June 1994
- TR-NWT-001147, *OSSGR Section 8: Administration (a module of OSSGR, FR-271)*, Issue 1, February 1991, plus Revisions
- TR-NWT-001177, *OSSGR: Special Billing Features (FSD 85 Series) (a module of OSSGR, FR-271)*, Issue 1, February 1992, plus Revisions
- GR-1173-CORE, *OSSGR: Common Functions (FSD 65 Series) (a module of OSSGR, FR-271)*, Issue 1, June 1994, Revision 1, October 1995

CLASS

- TR-NWT-000031, *CLASS℠ Feature: Calling Number Delivery, FSD 01-02-1051* (a module of LSSGR, FR-64 and ADSI, FR-12)
- TR-NWT-000215, *CLASS℠ Feature: Automatic Callback, FSD 01-02-1250*, (a module of LSSGR, FR-64), Issue 3, June 1993, Bulletin 1, April 1995
- TR-NWT-000227, *CLASS℠ Automatic Recall, FSD 01-02-1260*, (a module of LSSGR, FR-64), Issue 3, September 1993
- TR-NWT-001188, *LSSGR CLASS℠ Feature: Calling Name Delivery Generic Requirements* (a module of LSSGR, FR-64, and ADSI, FR-12), Issue 1, December 1991, plus Bulletins
- TR-NWT-000220, *CLASS℠ Feature: Screening List Editing, FSD 31-28-0000* (a module of LSSGR, FR-64), Issue 3, December 1993
- GR-1429-CORE, *Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Call Management Services*, Issue 1, August 1994

Switch Based Features

- GR-533-CORE, *Database Services Service Switching Points - Toll-Free Service, FSD 31-01-0000 (a module of LSSGR, FR-64)*, Issue 3, Supplement 1, April 1995
- GR-2857-CORE, *Generic Requirements for the Signaling System 7 (SS7) Release to Pivot (RTP) Network Capability*, Issue 1, April 1995
- TR-TSY-000586, *Call Forwarding Subfeatures, FSD 01-02-1450 (a module of LSSGR, FR-64)*, Issue 1, July 1989
- TR-TSY-000581, *Remote Call Forwarding, FSD 01-02-1402 (a module of LSSGR, FR-64)*, Issue 1, October 1989
- TR-TSY-000580, *Call Forwarding Variable, FSD 01-02-1401 (a module of LSSGR, FR-64)*, Issue 1, October 1989
- TR-NWT-000972, *Call Forwarding Subfeatures: Switching System Requirements Using Signaling System No. 7 (SS7)*, September 1990
- TR-TSY-000569, *Multiline Hunt Service, FSD-01-02-0802 (a module of LSSGR, FR-64)*, Issue 1, May 1990
- TR-TSY-000568, *Series Completion, FSD 01-02-2801 (a module of LSSGR, FR-64)*, Issue 1, May 1990
- TR-NWT-000866, *ISDN Message Service Generic Requirements*, Issue 1, January 1991
- TR-TSY-000571, *Call Waiting, FSD 01-02-1201 (a module of LSSGR, FR-64)*, Issue 1, October 1989
- TR-NWT-000505, *LATA Switching Systems Generic Requirements, Section 5, Call Processing (a module of LSSGR, FR-64)*, Issue 3, Revision 3, June 1995
- TR-TSY-000858, *Flexible Calling for Managing Multiple Independent Calls*, December 1988
- TR-TSY-000590, *Call Pickup Features, FSD 01-02-02800 (a module of LSSGR, FR-64)*, Issue 1, July 1989
- TR-TSY-000563, *Denied Termination, FSD 01-02-0500 (a module of LSSGR, FR-64)*, Issue 1, May 1990
- TR-TSY-000562, *Manual Line Features, FSD 01-02-0301 (a module of LSSGR, FR-64)*, Issue 1, May 1990

It should be noted that Bellcore does not make procurement decisions for its clients. Bellcore activities that involve industry interactions in no way indicate a potential purchase or selection decision by any of Bellcore's clients.

If your company is interested in providing **nonproprietary** input or participating in Bellcore-sponsored meetings toward the formulation of the proposed Generic Requirements to support LNP, please contact Bellcore by **March 1, 1996**:

Ann Merrell
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McLean, VA 22102

Tel 703 712-8000

NORTEL
NORTHERN TELECOM

March 22, 1996

Mr. Gary Sacra
AIN Service Planner
Bell Atlantic Network Services, Inc.
Pod A29A
13100 Columbia Pike
Silver Spring, MD 20904

Dear Gary,

This letter is in response to your request concerning the assumptions used for the Generic LNP Trigger Cost Model.

The purpose of the model was to look for break points that would roughly show the percentage of ported subscribers needed to make a particular LNP triggering algorithm alternative economical for the incumbent LEC. The model is highly approximate, uses industry average costs for network elements and is used to see patterns and relationships to reach qualitative conclusions about the triggering algorithms. It is not intended to be used for any quantitative measurements of cost or percent-of-ported-subscribers to reach a break point.

The graphs Nortel have been displaying in LNP Work Shops are based on a hypothetical network - the break points are not based on a real LEC's telephone network. There are a number of variables which can have impacts on the relative positioning/break points which are specific to a particular telco's network characteristics and LNP roll-out metrics. Thus it is necessary to conduct deployment studies specific to a telco's network when attempting to arrive at explicit network cost impacts. These variables are elaborated on later in this letter.

The model only considered some traffic sensitive components of the network:

- Switch Costs
  - Switch capacity for physical call routing (e.g. trunk peripherals, switching fabric)
  - Switch capacity for call processing and set-up
- Trunk Costs
  - Transmission capacity of inter-exchange facilities for physical call routing
- SCP Costs
  - SCP capacity for query and response processing